

Two new species of *Brachyloma* (Epacridaceae) from the South West Botanical Province of Western Australia

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Abstract

Cranfield, R. J. Two new species of *Brachyloma* (Epacridaceae) from the South West Botanical Province of Western Australia. *Nuytsia* 15(3): 331–336(2005). Endemic to the South West Botanical Province of Western Australia, *Brachyloma delbi* Cranfield and *Brachyloma mogin* Cranfield are described, illustrated and mapped.

Introduction

Brachyloma is an Australian genus of eight known species of which five occur in eastern Australia. In Western Australian *Brachyloma* prior to 1998 consisted of only two recognised species, *Brachyloma concolor* Benth. and *Brachyloma preissii* Sonder. These western taxa are closely allied to *Brachyloma ericoides* Sond., a common South Australian and Victorian species. The two Western Australian species and *B. ericoides* form *Brachyloma* section *Brachyloma* Sond. while the remaining four eastern taxa constitute the section *Lissanthoides* Benth. (Bentham 1869).

In 1998 a third Western Australian species, *Brachyloma gnuba* Cranfield was described from material collected by the author. During the 1998 study the need for further revisionary work was recognised but not progressed as it was considered that not enough material existed at the time to satisfactorily support the recognition of the following two new species.

A specimen of *Brachyloma* collected by a Kulin Regional Herbarium collector in May 1995 was found to be different from the known Western Australian species. Detailed examination of this material showed characters that suggested that this was a new species. A subsequent search of herbarium specimens (PERTH) failed to locate any other collections. The original collector was approached and a further three collections were made in 1999 from the Kulin area.

A second undescribed collection of *Brachyloma* was recognised while checking PERTH herbarium records. Attempts to locate additional material of this second new taxon led to a successful collection being made in May 1997. Both of the new species appear to be more closely related to *Brachyloma concolor* Benth. than *Brachyloma preissii* Sonder and they both conform to *Brachyloma* section *Brachyloma*. These two new species of *Brachyloma* will enlarge the genus to 10 species.

Methods

Two or three flowers were dissected from each of the new species and the same number of flowers from selected sheets representing the existing known Western Australian species to establish character differences. All the *Brachyloma* material held in herb. PERTH was examined. Other members of the family were also examined in an attempt to locate additional specimens of the new species. All floral characters were measured either by ruler, measuring lens or with a stereo microscope eye-piece micrometer. Measurements were made to encompass a range of sizes but exclude the obvious extremes such as juvenile or underdeveloped characters.

Taxonomy

Diagnostic characters for the new Western Australian species of *Brachyloma* are given in Table 1. The shape of the style distinguishes these new species from each other and the measured leaf characters separated them from the other known Western Australian species. *Brachyloma delbi* has a similar style shape to *Brachyloma nguba* Cranfield but can be separated by leaf characters.

The two species are also geographically disjunct. Habitat difference further segregates these species, with *B. delbi* occurring in open woodland with gravel soil while *B. nguba* occurs in an open mallee woodland-mallee scrub over white to brown sandy clay.

Table 1. Characters distinguishing the two new species of *Brachyloma*.

Character	<i>B. delbi</i>	<i>B. mogin</i>
Leaf		
length (mm)	4.0–8.0	6.0–10
width (mm)	0.75–1.0	1.5–2.0
cross section	revolute	flat–convex
apex	apiculate	acute
mucro length (mm)	0.25–0.5	0.5–1.0
Flower		
pedicel length (mm)	0.75–1.0	1.0–1.5
sepal length (mm)	1.5–2.0	2.0–2.25
style length (mm)	0.25–0.75	0.5–1.0
ovary locules	4	4,5

Brachyloma delbi* Cranfield, *sp. nov.

Brachylomi preissii similis sed foliis revolutis stylo brevior 0.25–0.75 mm (versus 1–1.5 mm) et habito elatiore differt.

Typus: Kulin [precise locality withheld], Western Australia, May 1995, S. Murray KKS 181 (*holo*: PERTH 04612094).

Shrub to 1.5 m high. *Branchlets* sparsely setulose. *Leaves* alternate on branchlets, erect; petiole 0.5–1.0 x 0.25 mm; lamina linear, 4.0–8.0 x 0.75–1.0 mm, sparsely setulose to glabrous adaxially, setulose abaxially, with numerous prominent veins; margins revolute; apex apiculate, 0.25–0.5 mm long. *Inflorescence* of solitary axillary flowers in terminal leaf clusters. *Pedicels* 0.75–1.0 mm long; bracteoles 5–8, sessile, imbricate, 0.5–0.75 x 0.25–0.75 mm, margin fringed, apex acute; bracts 2, sessile, 0.9–1.0 x 1.0–1.1 mm, margin fringed, apex obtuse. *Sepals* ovate, 1.5–2.0 x 1.0–1.5 mm; margin fringed to glabrous; apex obtuse. *Corolla* pink to red; urceolate, 3.0–4.5 x 2.5–3.0 mm; throat partially constricted below corolla lobes, base slightly constricted; reflexed scales 0.25–0.5 mm long, with long hairs on apex; corolla lobes erect to spreading, broadly triangular, 1.0 x 1.0 mm, acute. *Stamens* 5, partially visible at base of corolla lobes, antesepalous; anthers linear, 1.0–1.5 x 0.25–0.5 mm. *Hypogynous disc* truncate to slightly lobed, *c.* 0.25 mm high. *Ovary* glabrous, 1.0–1.1 x *c.* 1.0 mm, 4-locular, ovules 1 per locule; white, *c.* 0.5 mm long, elliptic; *style* broad and only partially differentiated from the ovary, 0.25–0.75 mm long, with 3–4 small rounded apical lobes. *Fruit* a globular drupe, 3–4 mm, slightly angular, glabrous with persistent style. (Figure 1 A–C)

Other specimen examined. WESTERN AUSTRALIA: Kulin, Apr. 1999, D.E. Murfet 3528, 3518, 3527.

Distribution. Known only from the type location. (Figure 2)

Habitat. Open woodland with gravel soil.

Flowering time. April–May.

Conservation status. Conservation Codes for Western Australian Flora: Priority 1. This species is from a threatened location and only known from a few collections, occurring within the extensively cleared eastern wheatbelt. All known populations of this species appear to occur within the Kulin town boundaries and as such are under potential threat. Further field surveys are required for this species before its conservation status can be fully assessed.

Etymology. The specific epithet is from the Nyoongar aboriginal word ‘delbi’ meaning leaf (Bindon & Chadwick 1992), referring to the fact that the leaves of this species are characteristic.

Notes. The type specimen of *Brachyloma delbi* was previously placed under *Brachyloma concolor* Benth. at PERTH, although this was not considered an accurate determination. The small size of the flowers, style shape, revolute leaf margins and reduced apex mucro indicated a closer affinity to *Brachyloma nguba* (Cranfield, 1998). *Brachyloma delbi* is distinguished from *Brachyloma nguba* by its longer and narrower leaves.

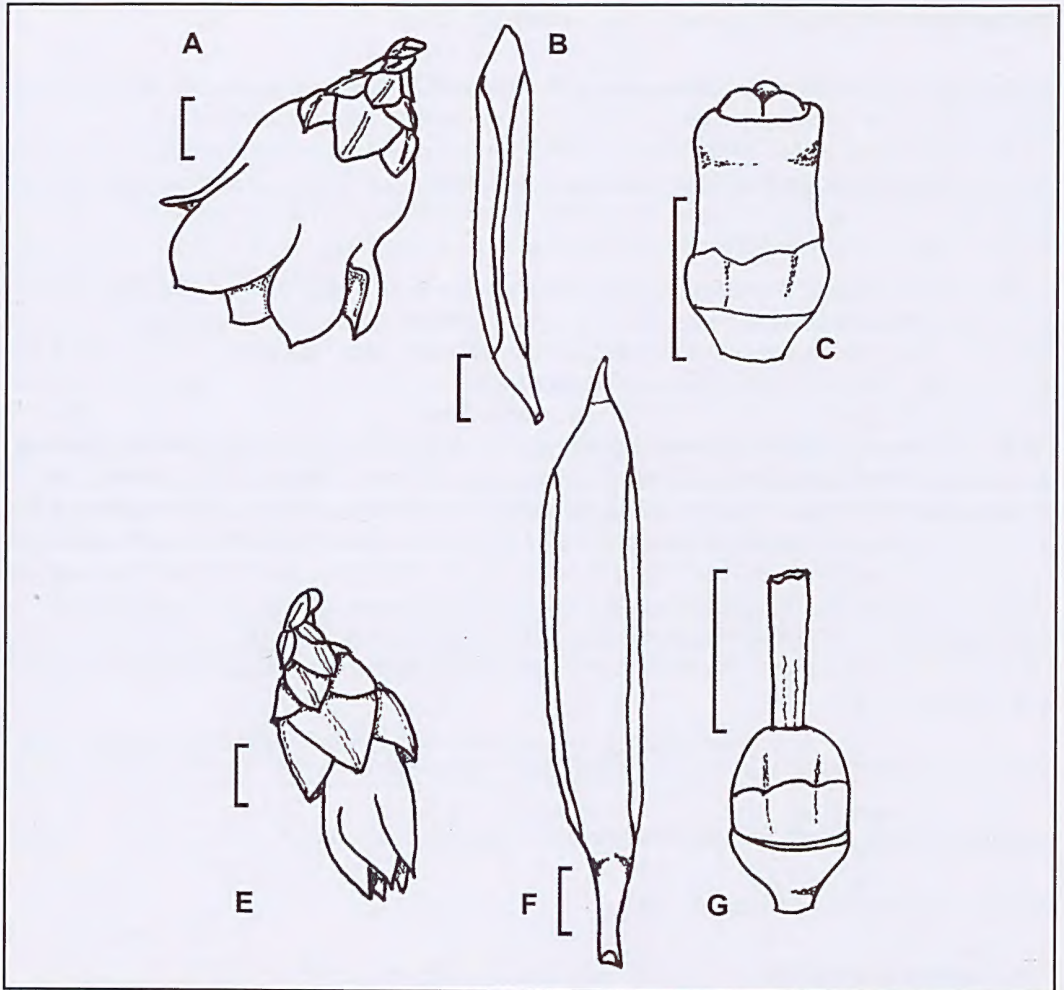


Figure 1. A-C: *Brachyloma delbi*, A - flower; B - leaf underside; C - style. E-G: *Brachyloma mogin*, E - flower; F - leaf underside; G - style. Scale bar = 1mm.

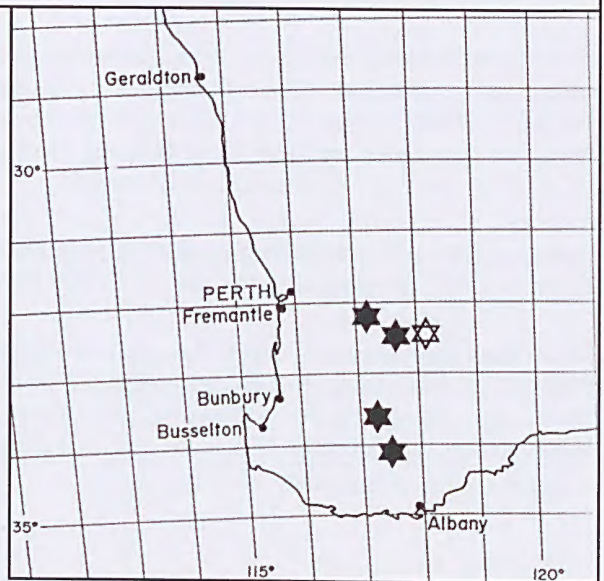


Figure 2. Distribution of *Brachyloma delbi* ☆ and *Brachyloma mogin* ★

Brachyloma mogin* Cranfield, *sp. nov.

Brachyloma delbi affinis sed stylo longiore et foliis latioribus differt.

Typus: 28.5 km W of Katanning (33° 41' 07" S, 117° 14' 08" E), Western Australia, May 1997, R.J. Cranfield 11372 (*holo*: PERTH04751795; *iso*: CANB, PERTH04751809).

Shrub to 80 cm high. *Branchlets* hispid. *Leaves* alternate on branchlets, erect; petiole 0.5–1.0 x 0.25–0.5 mm; lamina linear–lanceolate, 4.0–10 x 1.25–2.0 mm, glabrous adaxially, hispid abaxially, with numerous prominent veins; margins flat to convex; apex acute, 0.5–1 mm long. *Inflorescence* of solitary axillary flowers in terminal leaf clusters. *Pedicels* 1.0–1.5 mm long; bracteoles 5, sessile, imbricate, 0.5–0.75 x 0.75–1.0 mm, margin ciliate, apex obtuse; bracts 2, sessile, 1.5 x 1.0 mm, margin ciliate and apex obtuse to acute. *Sepals* ovate to obovate, 2.0–2.25 x c. 1.5 mm; margin fringed; apex obtuse. *Corolla* red to pink, urceolate, 4.0–5.0 x 2.0–3.0 mm; throat partially constricted below corolla lobes with an inflated base, reflexed scales 0.3–0.4 mm long, with long hairs on apex; corolla lobes erect or reflexed with age, triangular, 1.5–3.0 x 1.0–1.5 mm, acute. *Stamens* 5, partially visible at base of corolla lobes, antesealous, anthers linear, 1.0–1.25 x c. 0.5 mm. *Hypogynous disc* truncate to partially 5 lobed, c. 0.5 mm high. *Ovary* glabrescent, 0.5–1.0 x 0.5–1.0 mm, 4 or 5 locular, ovules 1 per locule; white, c. 0.25 mm long, elliptic; *style*, linear, clearly differentiated from the ovary, 0.5–1.0 mm long, with 5 small triangular apical lobes. *Fruit* a compressed, globular drupe 3–4 mm long, glabrous, with a persistent style. (Figure 1 E–G)

Other specimens examined. WESTERN AUSTRALIA: Boyagin Reserve, July 1977, A.S. George 14609 (PERTH); Kunjin Reserve [W of Corrigin], July 1999, R. Campbells.n.; Corrigin, May 2000, K. Kershaw KK2086; NE of Brookton, October 1979, R.J. Hnatiuk 790174.

Distribution. Endemic to the Jarrah Forest and the Avon Wheatbelt IBRA Regions (Thackway and Cresswell 1995) in the South West Botanical Province of Western Australia. This species is known from several locations. (Figure 2)

Habitat. Open woodland over grey sandy clay in areas that become inundated in winter.

Flowering time. May to June.

Conservation status. This species is known from several populations occurring on nature reserves. Conservation Codes for Western Australian Flora: Priority 3.

Etymology. The specific epithet is from the Nyoongar aboriginal word 'mogin' meaning 'similar to' (Bindon & Chadwick 1992), referring to the close similarity to *Brachyloma delbi*.

Notes. *Brachyloma mogin* has a close affinity to *Brachyloma delbi* but has larger flowers and a distinctive style morphology. Further collections will help to provide a better understanding of this species and its relationship to *Brachyloma concolor* Benth.

Acknowledgment

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References

- Bentham, G. (1869). Epacridaceae. In "Flora Australiensis." Vol. 4. (Reeve: London).
- Bindon, P. & Chadwick, R. (1992). "A Nyoongar Wordlist from the South-West of Western Australia." (Western Australian Museum: Perth.)
- Cranfield, R.J. (1998). *Brachyloma nguba* (Epacridaceae), a new species from the south-west of Western Australia. *Nuytsia* 12(2): 179–183 (Perth.)
- Thackway, R. & Cresswell, I.D. (1995). *An Interim Biogeographic Regionalisation of Australia (IBRA), version 4.0*. Published Report of the Australian Nature Conservation Agency, Canberra.